

Internet/Database Needs Assessment and Recommendations

AMIR Program

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Abbreviations

ACC	Amman Chamber of Commerce
ACI	Amman Chamber of Industry
AWTC	Amman World Trade Center
BA	Business association
BPWC	Business and Professional Women Club
FJCC	Federation of Jordanian Chambers of Commerce
ISP	Internet service provider
JAPM	Jordanian Association of Manufacturers of Pharmaceutical and Medical Appliances
JSTA	Jordan Society of Tourist and Travel Agents
JTA	Jordan Trade Association

Executive Summary

Introduction

AMIR is a broad-based private sector development initiative with components focusing on microfinance, economic policy reform and improved service delivery capability for business associations. This consultancy addresses the activities under the Business Associations Initiative (BAI) component. The objective of this consultancy is to provide assistance to seven targeted BAs in identifying and specifying their IT needs and goals, and to produce concise recommended specifications for hardware, software, Internet connectivity, and training needed for each of the seven BAs to better serve their members and clients.

While taking into account that the IT needs of the seven BAs may vary, special consideration is given to achieving three minimum capabilities for all BAs: E-mail and Internet access, web page design and maintenance, and database development and maintenance to track member information and reference material with HTML publishing capabilities. Consideration is also given to: various web hosting options, dynamic access to BAs member information through the web, evaluating the concept of integrated information/database among BAs, and to a cost-conscious approach in determining necessary acquisition of hardware.

Needs Assessment

During six days, the consultant visited the seven targeted BAs. In addition, the consultant conducted a basic survey of the local market for services, hardware, and software covered under the consultancy. Due to the limited time available, a single visit was conducted to six of the seven BAs. Therefore, this report relies heavily on the consultant's own experience with BAs and IT, as well as on existing documentation related to the project, in arriving to the recommendations.

As stated in earlier AMIR documents, the various organizations have different levels of technology and competency. While some associations are fully utilizing their current IT resources, others do not have a basic database of members or use outdated technology. For any serious networking among the various associations to succeed, a basic IT foundation must first be developed at each association. This foundation should encompass the three minimum considerations covered under this consultancy. At the same time, it should take into account the long-term needs of the various BAs.

While less emphasis is placed on networking the associations in the early stages, a strong emphasis is placed on leveraging the efforts from the start to ensure long-term compatibility and to reduce the time and cost required for implementation. For instance, the combined membership of the two largest organizations, the Amman Chamber of Commerce (ACC) and the Amman Chamber of Industry (ACI), represents 90 percent of Jordanian businesses. While the two associations represent two separate sectors of the economy, there is a strong similarity in the type of services they offer their members (e.g., membership maintenance, Certificate of Origin, etc.) and internal IT applications (e.g., accounting, payroll, etc.). The report **does not** propose any integration of the actual systems between the two organizations. It calls, however, for coordination between the two organizations on technical issues related to the design and implementation of a future system, which in the case of one of the two associations may be a necessity. Both associations can reduce their development cost and maintain control over their own system, while building a foundation for future networking.

Leveraging opportunities also exist between the smaller associations. While taking the individual needs of each association into account, it is possible to address common needs in a coordinated effort. In addition to the minimum capabilities requested by the AMIR Program, a basic IT foundation must include the development of an basic internal database of members at each association.

If setup and maintained correctly, such a database would serve as the source of membership information on the web and as the base for tracking membership services and activities. Coordinating the design, development and implementation of separate yet similar databases at the smaller associations allows for a cost-effective forward looking solution. Again, emphasis is placed on establishing a basic foundation for each association with an eye towards future networking.

For each association, the consultant takes the following steps in fulfilling the objectives of the consultancy:

- 1) Assess current IT resources
- 2) Examine the key issues
- 3) Recommend and specify short-term procurement

Conclusion

The recommendations made in this report are intended to fulfill the minimum capabilities requested by the AMIR Program and support the long-term IT needs of the business associations. Coordinating and leveraging overlapping efforts among the various associations should reduce costs and create a basic foundation for future networking among them.

Cross-Organizational Issues

This section covers cross-organizational issues. The approach taken by the consultant is to address the individual needs of the various association while, at the same time, leveraging the efforts involving overlapping needs. The individual association sections that follow reflect the this approach.

Networking the associations:

Considering the varied capabilities of the various associations, it is essential to first build a minimum foundation at each association before networking can be feasible. Intermediate steps recommended in this report are designed to support networking as a long-term goal.

Database Foundation:

Several of the smaller associations do not have an internal database of members. Instead, member information is maintained using word processor files. In some cases, several word processor files are maintained at a single association to provide membership information in different formats. As a result, corrections and additions have to be made in several files. One association maintains an Arabic only list.

It is possible to format the membership information solely to achieve the basic consideration of loading it on the web. The problem with such an approach is that without an effective method to maintain the data internally the integrity and quality of the data on the web site overtime can not be ensured. By building an internal database at each organization for daily activities, a reliable source of the membership information can be established.

Off-the-shelf (O-T-S) association software:

In the United States, there is an established O-T-S association software industry. This software is designed in a generic way to suit the needs of a wide range of association. Usually, packages have a modular structure. Since all membership associations deal with contacts (i.e. individuals and/or companies) and conduct membership activities (joining, renewal, billing, etc.), contacts and membership are two main modules. Other modules such as events tracking can be added if needed.

The problem with these packages is that their generic design often necessitates modifications. Some O-T-S packages provide access to the source code to allow the association to make modifications. Others require modifications to be made only by the vendor. Despite overlapping needs, associations have unique needs. In the case of the targeted associations, a key requirement is Arabic capability. Although English is widely used in business, some government agencies in Jordan will reject communications from local associations unless they are in Arabic. Even if Arabizing existing packages is possible, lack of local support for the software is likely to be an issue.

Custom Development:

Developing a custom application separately for each association with multiple modules can be costly and time consuming. However, by leveraging the efforts involved in developing a database and using a gradual approach, it is possible to reduce the overall cost and ensure future compatibility among the various associations. In order to satisfy the minimum requirements it is advised to equip each association that does not have a database with an Arabic/English contacts module. This approach allows for the rapid conversion of the membership information into a database format. At the same time, it establishes the foundation on which other modules can be built. Most association can benefit from a membership maintenance and an events tracking modules. Certain association have additional unique requirements such as legal case tracking.

The consultant has discussed this approach with a local software developer. The attached proposal (See Appendix V) applies this approach. It would be ideal to maintain a long-term relationship with the developer eventually selected in order to ensure the compatibility of the software at the various associations and the effective design of future modules. However, it is also important to ensure that access to the source code will be available in case there is a need to use a different developer in the future to design additional modules.

Web database:

With an internal database in place, some associations may choose to use their own web site designer to develop a searchable database on the web. For those, who do not have a web site, a turn key solution is provided in Appendix V. The solution is modular to allow the selection of services as needed. For associations that elect to use the web site solution in Appendix V, a top level search engine can be created. This allows for searching the databases of multiple association while allowing each association to maintain its own separate web database based on its internal database. The consultant recommends that the consideration of a top search level be delayed until the separate web databases are in place.

Hosting options:

From a physical point of view, the location where a web site hosted does not have to be the same geographic location where the owner is. A Jordanian site can be hosted in Jordan, Europe or the USA. From a performance point a view, the physical location of the site is very important. The performance of a web site depends on a several factors. A key factor is the bandwidth available to the hosting entity as well as to the user. On the hosting side, the greatest Internet backbone exists in the USA. Most reputable ISPs in the USA offer their clients significant bandwidth. On the user side, its is important to first clarify were the target market is. The consultants understanding is that the data that will be offered by the BAs on the web primarily targets user outside Jordan. Currently, seventy percent of the world's Internet users reside in the USA. The combination of the developed backbone an the concentration of users, contribute to a high performance for web sites hosted in the USA.

A number of Jordanian ISPs and web designers offer their clients a USA hosting option. Some of the BAs are already working with such vendors. The individual association sections address this issue based on each association's needs.

Library Resources:

Currently, only the two largest associations, ACC and ACI, have sizable libraries. In the case of the ACC a librarian is available, however, they lack the hardware and software needed to catalog the existing library resources. In the case of the ACI, the computer department has designed an internal database based on CDS/ISIS standard for cataloging its library resources. What is lacking in the case of the ACI is a qualified librarian to use the system. As for the other associations, their library resources are currently very limited.

Nevertheless, there is great value in allowing the various associations to share library resources. This is specially true for studies, laws and regulations that concern the business community locally and abroad. This information sometimes difficult to obtain and knowing were to find it can be of great value.

There were previous regarding the use of an O-T-S library software MINISIS. Actually MINISIS itself is a Database Management System (DBMS) like Microsoft Access. A library application is available using MINISIS. The application follows CDS/ISIS standards. The consultant has discussed the software with one of its users in Jordan, the Shoman Public Library. The Windows version of the library application is yet to be Arabized. The Shoman Public library will likely Arabize

its own.

Based on the needs of the business associations, the consultant does not believe that the installation of MINISIS at this time would add significant value. The ACI already has a CDS/ISIS compatible software developed in-house. They simply lack the staff to use it. As for the ACC, there are some crucial issues to be addressed in order to bring their entire network up-to-date. If the ACC and ACI coordinate their systems, as recommended, a similar system would be used at both organizations.

As for the smaller organizations, the consultant recommends the use of the free CDS/ISIS software package, available from the Shoman Public Library. Once internal databases are populated, it may be feasible to consider electronic sharing of the information. It would be possible in the future to move the data into a new system that allows the sharing of the data.

Internet/Database Needs Assessment Overview

	ACC	ACI	AWTC	BPWC	JAPM	JSTA	JTA
Organizational Data							
No. of active Members	31,000	9,401	200	172	15	337 HQ 50 Branches	78
Membership Structure	Semi compulsory for trade and service establishments. 6 categories. Lowest category not offered to new members.	Semi compulsory for industrial establishments. Based on capital. 8 categories.	Voluntary corporate (JD 150 setup, JD 250/yr, JD 75/yr per additional contact)	Voluntary individuals business and professional women (JD 15/yr)	Voluntary for pharmaceutical and medical manufacturers.	Compulsory for travel agents (JD 150/yr for HQ - JD 100/yr for Branches)	Voluntary corporate (JD 600/yr)
Services for Members	Membership, Certif. of Origin, reference letters, guarantees, magazines (irregular)	Membership. Certif. of Origins, Reference letters, Main services for all, seminars for certain sectors. Newsletter (every 15 days) to top 2,000 factories and by request.	Information, Internet newsletter, affinity programs.	Monthly Newsletter, Free/paid events	Representation of industry.	Allowing for ministry registration, training on reservation/ticketing/etc., letters of introduction, spokesgroup for industry, mediation.	Trade promo. (missions, exhibitions), Info. (regulations, country data, research), directory (every 6 months)
Services for Non-Members				Paid events at a higher rate	Lobbying, fax updates to members.		Free services to attract new members
Staff	47 FT	45 FT	4 FT: GM, PR, Off. Manager, Account executive. 1 PT: Accountant	5 FT: Director, Receptionist, Secretary, Sup. of IDC, Sup. of BIU 3 PT: Lawyers (2), Accountant	3 FT: Secretary General, Secretary, Office Boy	5 FT: Manager, Sr. secretary, secretary, PR, messenger. 1 PT: Accountant	4 FT: GM, Secretaries (2), Office Boy
Computer Staff	2 FT	4 FT	None	None	None	None	None
Internet/Web							
E-mail address	Yes	Yes	Yes	Yes	Yes	No	Yes
Has own domain name	No	aci.org.jo	awtc.com	No	No, In process	No	jta-jordan.com
Internet Access	Dialup Index	Shared Dialup Global One	Shared Dialup Nets	Dialup Index	Dialup Global One	No	Dialup Global One
Web Site	No.	Self hosted	No, reviewing BOC proposal	No	Yes, Planning an upgraded	No	Yes, Being upgraded BOC
Searchable Databases on Web	Searchable membership database on FJCC's web site	Yes	No	No	No.	No	Possibly with upgrade.

Internal computer resources							
Network/Server	Data General-UNIX	IBM RS/6000 server IBM-AIX. Motorola server with IBM-AIX as a web server.	1 PC serving as dedicated server in a peer-to-peer network.	3 peer-to-peer networks connecting 2, 3, and 9 PCs	None	None	None
Workstations	16 terminals 18 PCs 386 2 PCs Pentium	14 terminals. 18 PCs.	4 PCs, 3 as workstations 1 as server	16 PCs	1 PC pet, 2nd PC is planned	1 PCs Pentium 1 PCs 486 24 PCs 286 (training room)	1 Working 2 obsolete
Internal Database	Yes	Oracle 7.0	ACT! software to maintain membership database	No	No	No	No

Amman Chamber of Commerce (ACC)**Current IT Resources:**

With over 31,000 active members, the Amman Chamber of Commerce (ACC) is the largest of the seven targeted associations. The ACC operates a Data General mini-computer installed in 1987. The key applications (i.e. membership, certificate of origin, payroll, accounting, etc.) were written using COBOL. In 1993, the ACC upgraded its Data General to a UNIX operating system. The COBOL programs are still in use. Currently, the ACC has 16 terminals and 22 PCs. Eighteen of the PCs are old 386 machines. Two are 486 machines and another two are Pentium machines.

Minimum Capabilities:

- C The ACC has recently acquired e-mail and Internet access. Although the ACC has five e-mail addresses, only one is being used. All e-mail is received by the computer department.
- C The ACC does not have a web site of its own.
- C The ACC has an internal database of members. This database is searchable on the web through the Federation of Jordanian Chambers of Commerce (FJCC).

Key Issues:

By far, the ACC has the largest membership of any of the targeted associations. At the same time, the ACC has a very outdated system. In fact, the ACC may have an impending year-2000 (Y2K) problem. If this problem is not addressed soon, the ACC will risk interruption to its mission critical applications. In addition to the problems on the mini-computer, there is a shortage of up-to-date PCs throughout the ACC. The research department for instance does not have a single PC. The ACC magazine is prepared manually and submitted to the printer for printing. As a result, there is a significant technology gap to overcome.

The Y2K Issue:

The ACC is currently seeking a solution to its Y2K problem. One solution involves an upgrade to the UNIX operating system. The upgrade is free of charge assuming that annual software maintenance has been paid. The ACC has to pay JD 3,400 (\$4857.14) in back maintenance payments before it can get the "free" upgrade. In addition, the free upgrade may be taxed at 40 percent of the estimated value of the software. Finally, JD 7,000 (\$10,000) will be needed to upgrade the Microfocus COBOL. The vendor will not provide a guarantee that this fix will resolve all potential Y2K problems. The ACC is currently discussing an alternative with the consultant that provided its 1987 software.

Beyond the Quick Fix:

The ACC may be forced into a quick fix due to the limited time available. However, if the ACC is to play an effective role as the largest representative of Jordanian businesses, it must take a serious look at its current computer resources. The current IT infrastructure at the ACC needs a major upgrade. In addition to upgrading the central system, modern hardware and software should be introduced to the various departments at ACC. The ACC has the option of bypassing the quick fix. The advantage to doing so is that the money that would be spent on it could be spent on the long-term solution. On the other hand, implementing the long-term solution directly would require rapid action on the part of the ACC management and the commitment of the necessary financial and human resources.

Long-term solution:

As mentioned in the executive summary, the ACC and ACI combined represent 90 percent of

Jordanian business. Furthermore, the two associations run very similar applications. The consultant sees significant benefits to a coordinated IT effort between the two associations. It is not suggested that the two associations network their applications. Rather, by coordinating in the design and implementation of a new system, the two associations can benefit from each others experience, reduce the over all cost of a new system, create a foundation for future information sharing, and create a standard for other Jordanian chambers.

The ACI is running an Oracle database on a UNIX server and does not have a impending Y2K problem. Nevertheless, the ACI is planning an upgrade of its system to take advantage of opportunities offered by graphic user interface (GUI) and a Windows NT-based client-server environment. The ACI already has an Oracle database running on the backend, which can be easily migrated to the NT server. The majority of the work the ACI would need is in the development of a GUI. With four full-time staff members, the ACI will likely be able to handle much of that work internally.

It is advisable that the ACC considers taking a similar route and implement a Windows NT server and a GUI. The ACC will need more resources to accomplish such a transition. Currently, the ACC has two full-time staff members in the computer department. While the staff is being trained on Oracle databases, the lack of hands-on experience with Oracle and Windows NT means that external support will be needed, at least in the beginning. This support can be in the form of consultant that would work with the ACC staff, coordinate with the ACI and any vendors involved in the upgrade. It is important, however, that the ACC and ACI technical staff have the opportunity to interact frequently and benefit from each others experiences. The ACC consultant should play the role of a coordinator and not a supervisor.

Another area that ACC will need to enhance it resource in before making such a transition involves the introduction of modern PCs and software to its various departments. The windows NT server will require modern workstations on the users end. In the case of the ACI, many users have modern PCs in place. As a result, few additional will be needed to replace the terminals and less training is need since many users are already exposed to the Windows environment. For the ACC to prepare for an upgrade to a Windows NT server, it must start first by introducing PC gradually to the various departments. They PCs will not only allow for the enhancement of skills, they will also allow for the use of some stand alone applications in the short-term such as desktop publishing and enhanced word processing.

Short-term procurement:

The short-term procurement focuses on introducing modern PCs to several key departments at the ACC. If deployed the manner intended, these PCs should contribute positively to the narrowing of the IT gap at the ACC.

Description/Specs.	Unit \$	Qty	Total \$
PC workstations including monitors			
Option 1: 450MHz - Pentium II, 64 MB, 10 GB HD, CD-ROM, 15" Monitor	\$1,700	5	\$8,500
Option 2: 400MHz - Celeron, 64 MB, 4 GB HD, CD-ROM, 15" Monitor	\$1,200	5	\$6,000
Recommend use: (1) Research department, (1) Secretarial pool, (1) Library, (1) Membership services (freeing an old PC for the information desk) (1) Computer department			
Peripherals			
Laser Printer for Research Department: 10 PPM, 1200 dpi	\$800	1	\$800
Scanner for Research Department: 600 x 1200 dpi	\$200	1	\$200

Software			
Microsoft Office Professional/ Arabic (negotiate license with authorized distributor in Amman)	\$500	5	Depends on licenses
Desktop Arabic Publishing software for research department (e.g. Adobe Pagemaker - ME for windows)	\$1,100	1	\$1,100
Web site development			
Web design and implementation. Including first year hosting. The budgeted costs assumes that the ACC web site might require more work and hosting space than envisioned, in the proposal in Appendix V, for the smaller associations due to the large size of the ACC database.	\$2,500	1	\$2,500

Current IT Resources:

The ACI is the second largest of the targeted associations with 9,401 active members. The ACI currently has two servers, an IBM RS/6000 serving the internal network and a Motorola setup as a web server. Both servers use the IBM AIX, a UNIX operating system. The ACI does not have a firewall in place (a software and/or hardware designed to protect internal data from unauthorized external use). Therefore, the two servers are not connected to each other due to security concerns. The internal server is connected to 14 terminals and 18 PCs. Five of the PCs are 486 machines. The remaining 13 are Pentiums ranging from 166 MHz to 350 MHz. The ACI has two 33.6k leased lines one to the National Information Center (NIC) another to Global One. The ACI uses an Oracle 7 database for all its key applications (membership, Certificate of Origin, payroll, accounting, etc.). With the support of the Federation of German Chambers of Commerce, the ACI has been able to maintain a relatively modern computing environment.

Minimum Capabilities:

- C The ACI has both e-mail and Internet access. ACI's computer department can allocate e-mail addresses to staff as needed.
- C The ACC built, hosts and operates its own web site.
- C The ACC has an internal database of members. This database is searchable on the web through the ACI web site.

Key Issues:

The ACI satisfies the three minimum capabilities. The ACI computer staff has a solid handle on ACI's existing IT resources and definitive ideas for future enhancements. With all its key applications developed in-house, the ACI does not have any serious Y2K problems. The ACI has submitted an electronic commerce initiative to the EU and is currently awaiting funding.

Nevertheless, the ACI has several issues to consider. First, due to lack of a firewall, the ACI transfers data from the internal server to the web server via diskettes. As a result, the data on the web site is not fully dynamic and is limited to what is transferred on diskettes. Second, by hosting the web site internally, the ACI web site is limited by the speed of the leased line. Third, while the ACI is fit from a technical point of view, the design can be improved. Fourth, in order to prepare for the long term, the ACI plans to move to a GUI. As a result, the ACI is planning the move to a Windows NT environment.

The Firewall and Web Hosting Options:

These two issues are related. The ACI has made the decision to maintain its own web server in-house. According to the ACI, this decision due to a policy of not hosting its membership information outside in a database format and to the belief that internal hosting supports the development of in-house IT resources. On the other hand, due to limited Internet bandwidth available within Jordan, the performance of the web site can suffer.

There is no doubt that the prices and quality of connections will improve in Jordan over time. If the ACI decides, from a policy point of view, that it will forgo the performance benefits of external hosting, the next step for them is to connect their web server to their internal server to allow secured dynamic access to their database.

There are various options for setting up a firewall. The cost of setting up a firewall can range

from \$1,000 to \$25,000 and above. Sufficient security is defined by the association itself. No system is 100 percent secure. The association has to decide what security level is acceptable and balance the cost with the benefits of a given solution. Since the effectiveness of a firewall will depend gently on its proper configuration, the ACI should solicit outside support if needed to ensure the proper configuration of the firewall. Further, the selection of the proper firewall should take into account the current and proposed software and hardware at the ACI. Therefore, the ACI computer staff needs to review the proposed options and select the one that will best suit their needs.

Web design:

The ACI web site is technically sound. However, the consultant believes that, in order to use it as an effective marketing tool, the web site needs some design support. Therefore it is recommended that the ACI technical staff receive support from an external web designer to explore a new visual design for the site. The ACI must make sure that it will own the resulting design, graphics, etc.

Long-term solution:

As mentioned in previously, the ACI and ACC combined represent 90 percent of Jordanian business. Furthermore, the two associations run very similar applications. The consultant sees significant benefits to a coordinated IT effort between the two associations. It is not suggested that the two associations network their applications. Rather, by coordinating in the design and implementation of a new system, the two associations can benefit from each others experience, reduce the over all cost of a new system, create a foundation for future information sharing, and create a standard for other Jordanian chambers of commerce.

The ACI is running an Oracle database on a UNIX server and does not have a impending Y2K problem. Nevertheless, the ACI planning an upgrade of it system to take advantage of opportunities offered by graphic user interface (GUI) and a Windows NT-based client-server environment. The ACI already has an Oracle database running on the backend, which can be easily migrated to the NT server. The majority of the work the ACI would need is in the development GUI. With for full-time staff members, the ACI will likely be able to handle much of that work internally. The ACI currently has 18 PCs and 14 terminals. The ACI will need to introduce additional PCs as part of the migration to the Windows NT server. Further, the ACI will need to obtain Oracle Developer 2000 in order to develop the new GUI.

It is advisable that the ACC considers taking a similar route and implement a Windows NT server and GUI. It is important, however, that the ACC and ACI technical staff have the opportunity to interact frequently and benefit from each others experiences.

Short-term procurement:

The short-term procurement focuses on a firewall.

Description/Specs.	Unit \$	Qty	Total \$
Firewall			
Option 1: Checkpoint Point's Firewall-1	\$3,000	1	\$3,000
Option 2: Cybergaurd Corp.'s Cyberguard firewall	\$1,000 - \$6,000	1	\$1,000 - \$6,000
Option 3: Sun Microsystems Inc.'s Sunscreen EFS	\$4,000	1	\$4,000
Option 4: IBM's Firewall for AIX	\$5,000	1	\$5,000
Further study of the ACI setup and requirements is required before making choice. Additional hardware may be needed. The ACI staff may require external support to ensure the proper installation of the firewall.			

Web design support			
Web design support	\$700	1	\$700

Current IT Resources:

The AWTC has 4 staff members and 4 PCs. Despite its small staff, the AWTC is pushing its IT resources to the limit. One of the PCs is being used as a dedicated server (without server software) in a peer-to-peer network. As a result, one of the staff members does not have a PC. The three remaining PC share files on the dedicated server. Faxing and e-mail access is accomplished through shared modems. The AWTC periodically send out 2,000 faxes (through WinGate software) and 600 e-mails.

Minimum Capabilities:

- C The AWTC has both e-mail and Internet access. AWTC has an e-mail account for each of its staff members.
- C The AWTC does not have a web site. Its management is currently reviewing a proposal by BOC.
- C The AWTC maintains its membership records in ACT! - an off-the-shelf (O-T-S) contact management software. The database is not available through the web.

Key Issues:

The AWTC has several issues to address. First, the AWTC needs to setup a web site and consider offering a searchable database of members. Second, serious consideration should be given to installing a network server. Third, the AWTC must review its software packages to ensure compliance with IPR regulations.

Web site:

The AWTC is currently reviewing an offer to establish its web site. BOC, the vendor that made the offer, will host the site in the USA to take advantage of the advanced Internet backbone. The offer does not include a dynamic database of members. The vendor should be requested to present an offer that has that option. This offer should be compared with the offer presented by Integrated Business Systems (Appendix V)..

Database:

The AWTC maintains its membership records in ACT!, an O-T-S contact management software. As a result, the membership data can be easily exported for use on the web site. However, ACT! is not an association tracking software. The features it offers right out of the box can be very useful. Nevertheless, ACT! has growth limitations and can not be easily customized to serve other membership activities. Therefore, the AWTC should consider switching to the Access database recommended for the other small associations. However, the AWTC would be giving up two many features by switching to the Access database in its first phase. The AWTC should may want to switch to the Access database once it includes the membership and events modules. The AWTC has highlighted the following capabilities as requirements of a new database: automated e-mail and fax, activity tracking, and to-do feature. It may be useful to have the database designer meet with AWTC in the early stages in order to ensure that the database takes the AWTC needs into account.

Server:

Despite its small staff, the AWTC has out grown its peer-to-peer network. The next logical step it to upgrade to a Windows NT server. Based on the number of staff, the AWTC can obtain a Small Business Server - a reasonably priced package of essential Windows NT software designed for small

business. The package will serve a maximum of 25 users and the AWTC would need the minimum 5-user

license. A Windows NT server will address the AWTC intermediate networking needs and offer an expansion potential.

IPR issues:

Currently, the majority of the software the AWTC is using is not licensed. It will cost a significant amount of money to license the existing software. However, the consultant recommends that instead of upgrading the current software, new software consistent with other BAs should be obtained. The AWTC will face a transition period from the current software packages to a new environment. For instance, since the AWTC might not want to switch to the recommended database in phase I, it will have to make the choice of continuing the use of the unlicensed software, upgrading it or making an early switch.

Short-term procurement:

The short-term procurement focuses on introducing a web site, network server, a new database system, and licensed software.

Description/Specs.	Unit \$	Qty	Total \$
Server			
Server : 400MHz - Pentium II, 128 MB, 4.5 GB HD, CD-ROM, 12/24 GB tape drive, 15" Monitor (e.g. Dell PowerEdge 1300)	\$5,500	1	\$5,500
The estimated cost includes the Microsoft Small Business Server with a 5-client license.			
UPS			
APC Uninterruptable Power Supply (UPS)	\$370	1	\$370
Software			
Microsoft Office Professional/ 2 English, 2 Arabic (confirm preference with AWTC and negotiate license with authorized distributor in Amman)	\$500	4	Depends on licenses
Intuit Quickbooks Accounting	\$600	1	\$600
Web site development			
Web site design, implementation and 1 year hosting (includes dynamic membership database)	\$1,500	1	\$1,500
Training			
Basics of Windows NT server administration for AWTC GM	\$300	1	\$300
Support			
Windows NT server installation	\$500	1	\$500
Misc.			
Network hub, cards and cables if needed (parts and installation)	\$500-\$1,000		

Current IT Resources:

The BPWC has 5 full-time staff (director, receptionist, secretary, supervisor, and supervisor of incubator) and 3 part-time staff (2 lawyers and 1 accountant). All staff has a PCs except one of the two lawyers and the accountant. There are three peer-to-peer networks: one between the receptionist and the secretary; a second between the 7 business incubator PCs, the incubator secretary and the supervisor; and a third between the director, the library and the supervisor of information. The lawyer PC is not connected to any other PC.

Minimum Capabilities:

- C The BPWC has both e-mail and Internet access. BPWC has a single e-mail account.
- C The BPWC does not have a web site.
- C The BPWC maintains its membership records in Microsoft Word in Arabic.

Key Issues:

The BPWC has several issues to address. First, the BPWC needs to setup a web site. Second, the BPWC needs to develop an internal database and consider offering a searchable database of members on the web. Third, the BPWC should consider the establishment of a local area network with a dedicated server. Fourth, the BPWC must review its software package to ensure compliance with IPR regulations.

Web site:

The BPWC should consider the offer presented by Integrated Business Systems (Appendix V). Other vendors could be solicited for similar offers.

Database:

The BPWC currently maintains its membership records in Microsoft Word in Arabic. In order for the BPWC to track its membership services effectively and offer dynamic information about its members online, it needs to maintain an internal database of members. The BPWC should consider the Access database recommended for other small associations. Initially, the database will consist of a contact module, allowing for a rapid move to a database environment. Not unlike other associations, the BPWC can benefit from a membership maintenance and an events tracking modules, which will be developed in the second phase. The BPWC has unique requirements such as legal case tracking, which the database developer would have to review and estimate the development cost.

Web Site and Database:

With an internal database in place, the BPWC should consider the turn key solution provided in Appendix V. The solution is modular to allow the selection of services as needed.

Server:

The current peer-to-peer network at the BPWC does not allow for adequate sharing of information. For instance, the director has no connection to the secretarial staff she deals with regularly. Further, in order to effectively implement a database solution that will grow to be an association management software, the various departments must have shared access to the database. Therefore, the BPWC should consider the installation of a Windows NT server. Based on the number of staff, the BPWC can obtain a Small Business Server - a reasonably priced package of essential NT software designed for small business. The package will serve a maximum of 25 users and the BPWC would need

the 20-user license. A Windows NT server will address the BPWC intermediate networking needs and offer an expansion potential.

IPR issues:

Currently, the majority of the software the BPWC is using is not licensed. The BPWC should resolve this issue soon as IPR laws in Jordan are becoming more strict.

Short-term procurement:

The short-term procurement focuses on introducing a web site, network server, a new database system, and licensed software.

Description/Specs.	Unit \$	Qty	Total \$
Server			
Server : 400MHz - Pentium II, 128 MB, 4.5 GB HD, CD-ROM, 12/24 GB tape drive, 15" Monitor (e.g. Dell PowerEdge 1300)	\$6,500	1	\$6,500
The estimated cost includes the Microsoft Small Business Server with a 20-client license.			
UPS			
APC Uninterruptable Power Supply (UPS)	\$370	1	\$370
Software			
Microsoft Office Professional/ Arabic (install in server and negotiate licenses with authorized distributor in Amman)	\$500	8-10	Depends on licenses
Intuit Quickbooks Accounting	\$600	1	\$600
Contacts Database			
Phase one of the association database (i.e. contacts module) designed in Microsoft Access with Arabic /English capabilities.	\$1,000	1	\$1,000
Web site development			
Web site design, implementation and 1 year hosting (includes dynamic membership database)	\$1,500	1	\$1,500
Training			
Basics of Windows NT server administration for selected BPWC staff	\$300	1	\$300
Support			
Windows NT server installation	\$500	1	\$500
Misc.			
Network hub, cards and cables if needed (parts and installation)	\$500-\$1,500		

Jordanian Association of Manufacturers of Pharmaceuticals and Medical Appliances (JAPM)**Current IT Resources:**

JAPM was created as a lobbying association for Jordanian pharmaceutical and medical appliances manufacturers. JAPM's 15 members represent Jordan's largest exporting sector. JAPM has two professional staff members (secretary general and secretary). Currently, only the secretary has a PC. The secretary general is in the process of obtaining a PC. Due to its small membership base, JAPM communicates with its members effectively through faxes and meetings..

Minimum Capabilities:

- C JAPM has both e-mail and Internet access. JAPM has a single e-mail account.
- C JAPM has its own web site. However, it is currently in the process of upgrading its site. Money has been allocated to this purpose by an EU program.
- C JAPM maintains its membership records in Microsoft Word.

Key Issues:

JAPM has a well defined membership and objectives. With two professional staff equipped with PCs (one is on the way) and a printer, JAPM does not need any major hardware purchases. An upgraded web site is already budgeted for.

JAPM may want to consider connecting its two PCs through a peer-to-peer network to allow them to share files, the printer and other future devices.

JAPM membership alone may not justify an involved database solution, due to its small size. However, as a lobbying association, JAPM may benefit from using a database to manage overall contacts as well as members.

Short-term procurement:

The short-term procurement focuses on introducing a peer-to-peer network, web site, and a new database system.

Description/Specs.	Unit \$	Qty	Total \$
Peer-to-peer network			
8 Port Hub. (e.g. 3 Com Office Connect Hub TP800) to connect two PCs, printer and allow for future growth.	\$270	1	\$270
Network cards and cables if needed (parts and installation)	\$200-\$500		
Contacts Database			
Phase one of the association database (i.e. contacts module) designed in Microsoft Access with Arabic /English capabilities	\$1,000	1	\$1,000
Software			
Desktop Arabic Publishing software (e.g. Adobe Pagemaker - ME for windows)	\$1,100	1	\$1,100
Training			
Desktop Publishing	\$300	1	\$300

Current IT Resources:

JSTA's membership consists all travel agencies in Jordan and their branch offices. JSTA has 5 full-time staff members (manager, sr. secretary, secretary, public relations, and messenger) and one part-time accountant. Only the two secretaries have PCs (one with a Pentium and the second with a 486 MHz processor). JSTA provides its members with reservation and ticketing training. The association has a training center with 24 PCs with 286 MHz processors.

Minimum Capabilities:

- C JSTA does not have an E-mail or Internet access.
- C JSTA does not have a web site.
- C JSTA maintains its membership records in Microsoft Word.

Key Issues:

JSTA has several issues to address. JSTA does not possess any of the three minimum capabilities. Therefore, JSTA must first establish an e-mail an Internet access. Second, JSTA needs to develop a web site. Third, needs to provide a modern PC to the sr. secretary. Fourth, JSTA should install a database system to track its members. Fifth, JSTA needs to re-evaluate it training center hardware and software.

Short-term procurement:

The short-term procurement focuses on introducing a web site, network server, a new database system, and licensed software.

Description/Specs.	Unit \$	Qty	Total \$
Internet E-mail and Internet access			
One year dial up Internet account with a Jordanian ISP (e.g. Nets, Global One, Index)	\$500	1	\$500
PC workstations including monitors			
Option 1: 450MHz - Pentium II, 64 MB, 10 GB HD, CD-ROM, 15" Monitor	\$1,700	1	\$1,700
Option 2: 400MHz - Celeron, 64 MB, 4 GB HD, CD-ROM, 15" Monitor	\$1,200	1	\$1,200
Recommended use: For use by sr. secretary, freeing older PC for use my another staff member.			
Peer-to-peer network			
8 Port Hub. (e.g. 3 Com Office Connect Hub TP800) to connect three PCs and 2 printers and allow for future growth.	\$270	1	\$270
Network cards and cables if needed (parts and installation)	\$200-\$500		
Contacts Database			
Phase one of the association database (i.e. contacts module) designed in Microsoft Access with Arabic /English capabilities	\$1,000	1	\$1,000
Web site development			
Web site design, implementation and 1 year hosting (includes dynamic membership database)	\$1,500	1	\$1,500
Software			

Microsoft Office Professional/ Arabic	\$500	1	\$500
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Jordan Trade Association (JTA)**Current IT Resources:**

JTA currently has 3 PCs - two are old 386 and 486 PCs. JTA has 3 professional full-time staff (general manager and two secretaries). The general manager handles the majority of the membership recruitment and research issues.

Minimum Capabilities:

C JTA currently has e-mail and Internet access.

C JTA has its own web site. JTA is currently in the process of updating its web site with BOC.

C JTA maintains its membership records in Microsoft Word.

Key issues:

JTA needs to consider several issues. First, JTA needs to introduce 2 modern PCs for use by the secretaries. Second, it needs to connect all the PCs to a peer-to-peer network to share files, printer, etc. Third, the association needs to establish an internal database to track its members. Fourth, JTA must review its web site plans to integrate a searchable membership database based on the internal database.

Short-term procurement:

The short-term procurement focuses on adding two modern PCs, a peer-to-peer network, a new database, and web site.

Description/Specs.	Unit \$	Qty	Total \$
PC workstations including monitors			
Option 1: 450MHz - Pentium II, 64 MB, 10 GB HD, CD-ROM, 15" Monitor	\$1,700	2	\$3,400
Option 2: 400MHz - Celeron, 64 MB, 4 GB HD, CD-ROM, 15" Monitor	\$1,200	2	\$2,400
Peer-to-peer network			
8 Port Hub. (e.g. 3 Com Office Connect Hub TP800) to connect three PCs and printer and allow for future growth.	\$270	1	\$270
Network cards and cables if needed (parts and installation)	\$200-\$500		
Contacts Database			
Phase one of the association database (i.e. contacts module) designed in Microsoft Access with Arabic /English capabilities	\$1,000	1	\$1,000
Software			
Microsoft Office Professional/ Arabic (negotiate license with authorized distributor in Amman)	\$500	2	Depends on licenses
Desktop Arabic Publishing software for research department (e.g. Adobe Pagemaker - ME for windows)	\$1,100	1	\$1,100
Training			
Desktop Publishing	\$300	1	\$300

Conclusion

The recommendations in this report aims to ensure the all targeted association meet the minimum capabilities requested by AMIR. At the same time, the report takes into consideration the long-term IT needs of each association to ensure that the short-term considerations to contribute to sustainable improvement at each association. A basic foundation must first be created at each association in order to narrow the IT gap between the various associations. This will create a reasonable platform from which networking efforts among some or all associations can be launched

Appendix I**Schedule of Meetings**

Day	Date	Time	Description
Friday	March 19, 1999	20:00	Briefing meeting with Dr. Zaki Ayoubi
Saturday	March 20, 1999	12:00	Business and Professional Women Club (BPWC)
		14:30	Jordan Trade Association (JTA)
Sunday	March 21, 1999	08:30	Briefing Meeting with Steve Wade and Dr. Zaki Ayoubi
		09:30	Amman Chamber of Industry (ACI)
Monday	March 22, 1999	09:00	Jordan Society of Tourism and Travel Agents (JSTA)
		12:00	Integrated Business Systems
Tuesday	March 23, 1999	09:30	Amman Chamber of Commerce (ACC)
		13:00	Abdul Hamid Shoman Library
		16:00	Specialized Technical Services
Wednesday	March 24, 1999	09:00	Amman World Trade Center (AWTC)
		16:00	Amman Chamber of Commerce (ACI)
Thursday	March 25, 1999	08:30	Briefing Meeting with Steve Wade and Dr. Zaki Ayoubi
		09:30	Jordanian Association of Manufacturers of Pharmaceuticals and Medical Appliances (JAPM)
		11:30	NETS
Sunday	March 28, 1999	15:00	Briefing meeting with Dr. Zaki Ayoubi

Appendix II**Targeted Business Associations****Amman Chamber of Commerce (ACC)**

Mr. Moh'd Ammar, Director General (DG)
 Mr. Mohammed Attar, First Assistant to DG
 Mr. Moh'd Abu Sa'adeh, Second Assistant to DG
 Mr. Hisham Al-Dweik, Research Department
 Mr. Krikor Ajmian, Head of Computer Department
 Ms. Hanada Awad, Computer Department
 Ms. Amina Ayub, Librarian
 PO Box 287
 Amman 11118
 Tel +962 (6) 566-6151/4
 Fax: +962 (6) 566-6155
 E-mail: acoc@index.com.jo

Amman Chamber of Industry (ACI)

Dr. Mohammed Smadi, Director General/Advisor
 Ms. Abeer Fawa'eer, Head, Computer Department
 PO Box 1800
 Amman
 Tel +962 (6) 464-3001
 Fax: +962 (6) 464-7852
 E-mail: aci@aci.org.jo, abeer@aci.org.jo
 WWW: <http://www.aci.org.jo>

Amman World Trade Center (AWTC)

Mr. Ra'ed Bilbessi, General Manager
 PO Box 962140
 Amman 11196
 Tel +962 (6) 560-5791
 Fax: +962 (6) 560-5793
 E-mail: bilbessi@awtc.com
 WWW: <http://www.awtc.org>

Business and Professional Women Club (BPWC)

Ms. Hind Abdul Jaber, Chairperson
 Ms. Sobhiyah Ma'ani, Vice Chairperson
 Ms. Rasha Barghouti, Executive Director
 Ms. Jumana Abdeen, Information and
 Documentation Center (IDC)
 Ms. Manal Shammout, Legal Counseling

Unit (LCU)

Ms. Hanan Al Qennah, LCU
 Ms. Rasha Maiaitah, Business Incubator Unit
 Ms. Reem Damen, Member of Board of Directors/IDC
 Ms. Buthaina Jardaneh, Member of Board of
 Directors/LCU
 Ms. Hala Ayoubi, Member of Board of Directors/BIU
 Ms. Randa Qunsol, Member of Board of Directors/AMIR
 Project Coordinator
 PO Box 910415
 Amman 11191
 Tel +962 (6) 551-1647/8
 Fax: +962 (6) 553-0092
 E-mail: bpwc@index.com.jo

Jordanian Association of Manufacturers of Pharmaceuticals and Medical Appliances (JAPM)

Mr. Maher S. Matalka, Secretary General
 PO Box PO Box 941247
 Amman 11194
 Tel +962 (6) 560-5634
 Fax: +962 (6) 569-1116
 E-mail: japm@go.com.jo
 WWW: <http://www.jmcd.com.jo/japm/japm.html>

Jordan Society of Tourist and Travel Agents (JSTA)

Mr. Yousef A. Mowaswas, Manager
 PO Box 7090
 Amman 11118
 Tel +962 (6) 463-8599/461-1304
 Fax: +962 (6) 461-1302

Jordan Trade Association (JTA)

Mr. Halim F. Abu-Rahmeh, Managing Director
 PO Box 830432
 Amman 11183
 Tel +962 (6) 568-5603/4
 Fax: +962 (6) 5685605
 E-mail: jta@go.com.jo
 WWW: <http://www.jta-jordan.com>

Appendix III**Other Relevant Contacts**

* Did not meet with during the visit

Abdul Hameed Shoman Public Library

Ms. Yusra Abu Ajamieh, Director

PO Box 940255

Amman 11194

Tel +962 (6) 567-9182/567-9166 Ext.

249

Fax: +962 (6) 560-7368

E-mail: ajamiehy@shoman.org.jo**Business Optimization Consultants
(BOC)***

Mr. Hussam M. Khoury

Mr. Samih A. Toukan

PO Box 830184

Amman 11183

Tel +962 (6) 613194

Fax +962 (6) 613189

**Global One Communications (Jordan)
Ltd.***

Mr. Imad Ayoub, General Manager

PO Box 941477

Amman 11194

Tel +962 (6) 562-4777

Fax: +962 (6) 569-7111

E-mail: imad@go.com.joWWW: <http://www.go.com.jo>**Integrated Business Solutions**

Ms. Susan Dababneh, Managing Partner

PO Box 940192

Amman 111194

Tel +962 (6) 568-8003/569-0450/3/4

Fax: +962 (6) 566-6680

E-mail: sd@integrated.com.joWWW: <http://www.integrated.com.jo>**International Data Exchange
(INDEX)***Dr. Abdullah S. Rifai, Managing
Director

PO Box 851620

Amman 11185

Tel +962 (6) 551-5333

Fax: +962 (6) 551-5999

E-mail: asr@index.com.joWWW: <http://www.index.com.jo>**National Equipment and Technical
Services (NETS)**

Mr. Marwan S. Juma

PO Box 811912

Amman 11118

Tel +962 (6) 551-0101

Fax: +962 (6) 551-0102

E-mail: marwan@nets.com.joWWW: <http://www.nets.com.jo>**Specialized Technical Services (STS)**Ms. Shereen Matouk, Microsoft Sales
Supervisor

PO Box 950745

Amman 11195

Tel +962 (6) 582-7611/585-6139

Fax: +962 (6) 582-9213

E-mail: shereen@sts.com.jo

Appendix IV**Documents Reviewed**

1. Networking Information Resources Among Jordanian Business Associations, Jane S. Johnson
2. Business Associations Membership Survey, Technical Report, May 1998
3. Business Associations Diagnostic Studies, Technical Report, July 1998
4. Business Associations Strategic Planning, Technical Report, Strategic Plan for AWTC, August 1998
5. Business Associations Strategic Planning, Technical Report, Appendix One, Strategic Plan for BPWC, August 1998
6. Business Associations Strategic Planning, Technical Report, Appendix Two, Strategic Plan for AWTC, August 1998
7. Business Associations Strategic Planning, Technical Report, Appendix Three, Strategic Plan for JTA, August 1998
8. Jordanian Business Association Diagnostic Guidelines Assessment Number 4, (JSTA), December 1998
9. Jordanian Business Association Diagnostic Guidelines Assessment Number 5 (JAPM), December 1998
10. Technical Specification Work Sheet, Commodity Assistance for BPWC
11. Technical Specification Work Sheet, Commodity Assistance for AWTC
12. Technical Specification Work Sheet, Commodity Assistance for JTA

Appendix V

Amman, March 24, 1999

Mr. Ghaleb O. Faidi
National U.S. – Arab Chamber of Commerce
1100 New York Avenue, N.W.
East Tower, Suite 550
Washington, D.C. 20005

Dear Mr. Faidi,

Reference to our meeting on Monday, March 22, 1999. The following is our proposal to undertake the development of an Association Contacts Database, Association Web Site with search capabilities and Association's Global Search Web Site.

Association Contacts Database:

Scope

The database will include the following:

Contacts Arabic / English: This will enable the user to enter all the contacts available. The contacts can be either Corporate or individual. The name and the address will be entered in English and Arabic. The contacts information will include: title, first-second-last name, corporate or individual flag, for corporate, several contact people can be entered with their addresses and phone numbers, the address will include 2 lines general address, P.O.Box, zip code, city, country, state, email, web site, 3 phone numbers, fax, and mobile phone. It will also include specialty of the contact, a board member flag, member flag, mailing language and Ramadan/Christmas flag.

Users Administration: The system will enable the administrator to define the system users. Only the defined users will be able to access to the system.

Parameters: This will include maintenance of the parameters such as the specialty, city, country, etc..

Mail Merge to documents: This will include mail merge to documents. I.e., creating the same document customized for many contacts chosen from the database.

Labels: This will give the user the facility to print labels on A4 labels sheets. The labels can be chosen for one or many users.

Reports: The system will allow the user to print a list of contacts according to certain criteria.

Development Time

Two weeks.

Development Fees

First Association: **700 JOD** (Seven Hundred Jordan Dinars).

Second Association: **500 JOD** (Five Hundred Jordan Dinars).

The above fees include installation, training users and support for 3 months. It does not include the source code.

Payment Terms

Payment Terms for the development of the contacts database will be as follows:

60% Upon Confirmation, 40% Upon Delivery of the database.

Association Simple Web Site:**Scope**

The web site will include the following:

Home Page: This will include the layout of the whole web site. It will have the association logo, links to all options and some text and pictures.

About Us: This will include a page describing the association and its history.

Services / Products: This will include 3-4 pages describing the services offered by the association.

Contact Us: This will allow the user to contact the association through email.

Search of members: This option will allow the outside world to search the database of the association of members that meet specific criteria. The criteria will have to be agreed on. The search will be done on a copy of database that is taken from the contacts database. The database will be updated on regular basis with the new members.

Development Time

Three weeks.

Fees

Our fees for the development of the association Web Site will be as follows:

	DESCRIPTION	PRICE IN JD	REMARKS
1	Web Site Development	450	
2	Domain Name registration + setup (for example: www.bpwc.com .)	100	Paid once.
3	Web hosting of 25 MB, including Database support, Web Trends statistics and several emails on the domain (sales@bpwc.com)	280	Paid yearly.
6	Search Engine Registration (Registration under the most common search engines)	120	Paid once.
	Total Professional Fees	950	

Our maintenance fees after the first year will be JD 150. The association will be responsible for the other yearly web hosting fees.

Associations Global Search:

Later on a global search web site for all the organization can be developed for a fee of **600 JOD** (Web Development Fees). This will require that all associations to have similar data in their databases and standardization of their specialty. This will include all the associations' logos, links to their web sites and the search.

Total development time will be **three weeks** after all the databases are available.

Maintenance fees after the first year will be **200 JOD**.

Payment Terms

Payment Terms for the development of this Site will be as follows:

60% Upon Confirmation, 40% Upon Delivery of the Site.

Finally, I would like to thank you for considering Integrated Business Solutions as a solution provider. Looking forward to hear from you.

Sincerely yours,

Sawsan A. Dababneh
Managing Partner
Integrated Business Solutions